

REMARKS

The Office Action dated 8 February 2005 has been reviewed and the comments of the U.S. Patent Office have been considered. Claims 1-23 are pending and are respectfully submitted for reconsideration by the Examiner.

Independent claims 1, 5, 10 and 16 have been amended to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. Claim 10 has additionally been amended as to matters of form, i.e., repetitious occurrences of “the ferrous pipe coupling further including” have been deleted. Claims 2-4, 7-9, 13-15, and 17-20 and 23 have been amended for consistency with respect to claims 1, 5, 10, and 16, respectively, from which they depend. Claims 4, 9, 15 and 19 have additionally been written in the customary format for *Markush*-type claims.

Before turning to the merits of the Office Action, it is respectfully submitted that Applicant’s field of endeavor is to a prelubricated gasket. Prior to Applicant’s invention, dry lubricants on a gasket have been used. For example, U.S. Patent No. 6,371,491 to Schultz et al. (“Schultz”) describes an “elastomeric gasket for a pipe coupling having a dry lubricating film of an aqueous solution of a lubricant and a film-forming polymer adhered thereto” (Abstract of the Disclosure). See Information Disclosure Statement filed 26 November 2002. Schultz’s lubricant is “an aqueous suspension of graphite, soaps, or a natural or synthetic wax dispersed in a film-forming polymer” (column 4, lines 17-21). According to Schultz, the “lubricating film is applied to the gaskets after their manufacture by any of a variety of conventional application methods including spraying, fogging, dipping, sponging, painting, etc.” (column 4, line 66, to column 5, line 12). This is in contrast to the claims of the instant application that are respectfully submitted to particularly point out and distinctly claim a powder coating, which is discussed in greater detail hereinafter, that provides a dry lubricant. Thus, Applicant’s invention is novel and non-obvious over Schultz at least because it provides a new type and implementation of a dry lubricant on at least the inner circumferential sides of a pair of flanges of a gasket, and none of the applied prior art teaches or suggests that a powder coating could be substituted for Schultz’s film.

Claims 1, 4-6, 9, 10, 16 and 19-23 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,302,450 to Dole et al. ("Dole") in view of U.S. Patent No. 4,230,157 to Larsen et al. ("Larsen") and Applicant's Prior Art disclosure. Claims 2, 3, 7, 8, 17 and 18 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dole in view of Larsen and Applicant's Prior Art disclosure, and further in view of U.S. Patent No. 5,070,597 to Holt et al. ("Holt"). Claims 11 and 15 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dole in view of Larsen and Applicant's Prior Art disclosure, and further in view of U.S. Patent No. 5,540,465 to Sisk. Claim 12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dole in view of Larsen, Applicant's Prior Art disclosure and Sisk, and further in view of U.S. Patent No. 5,642,907 to Dole ("Dole '907"). Claims 13 and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dole in view of Larsen, Applicant's Prior Art disclosure and Sisk, and further in view of Holt. These rejections are respectfully traversed in view of the above amendments to claims 1, 5, 10 and 16, and in view of the following comments.

Independent claims 1 and 5 recite pipe couplings that each include *inter alia* "a powder coating that provides a dry lubricant." Independent claim 10 recites a piping system that includes *inter alia* "a powder coating that provides a dry lubricant." And independent claim 16 recites an improvement to pipe couplings that includes *inter alia* "a powder coating that provides a dry lubricant." Support for these features of the independent claims may be found in the application as originally filed. For example, with regard to a preferred embodiment discussed in paragraph 0021, a surface coating of a powder may be applied to a gasket, such as by tumbling the gasket and the powder in an agitator. The powder coating, which tends to uniformly cover the gasket, provides a dry lubricant in an amount that is effective to lubricate the gasket during mounting over piping component ends. Because the powder coating that provides the lubricant cannot be significantly removed in the course of rubbing or handling, it can be applied at any time before installation of the gasket. Moreover, because the powder coating provides a dry lubricant, it is neither sticky nor tacky and does not attract dust, dirt or other contaminants before installation of the gasket. As discussed in paragraph 0026, preferred powder coatings that provide a dry lubricant may include cornstarch, rice starch, potato starch, other organic starches, and talc, i.e., magnesium silicate hydroxide.

Thus, a dry lubricant that is provided by a powder coating, as recited in Applicant's independent claims, has a number of advantages including that a uniform covering may be achieved, inadvertent removal of the coating may be avoided, and prelubrication at any time prior to installation is possible.

In contrast, the disadvantages of various types of oils and/or greases that have been used include that the oils/greases had to be supplied separately from the gasket and then applied just prior to installing the gasket. Otherwise, gaskets that are prelubricated with the oils/grease tend to collect dirt and debris. *See* paragraph 0002 of the application as originally filed.

Dole shows and describes a segmented, high-strength pipe coupling 10 for connecting two pipes 100 and 200. Dole's Figure 5 shows a pipe coupling 10 that has a lubricated gasket 32 with respective inner circumferential surfaces (not labeled) in contact with the exterior surface of each pipe. *See* Dole column 5, lines 22-36. As the Office Action acknowledges, Dole fails to show or describe the type of lubricant or its location on the gasket 32.

The Office Action relies on Larsen to allegedly teach that "[d]ry powder lubricant is a suitable lubricant to use in place of a grease lubricant on a gasket." Larsen, however, fails to teach or suggest that a lubricant, whether a wet lubricant or dry lubricant, can be applied on an inner circumference of lip portion 7 of seal ring 3, which forms a seal with the outer surface of pipe 1a. Moreover, Larsen fails to teach or suggest that a powder coating of a dry lubricant can be applied.

In particular, Larsen's Figure 1 shows a pipe end portion 1 with a circumferential groove 2 on which a sealing ring 3 is constrained within the groove 2. *See* Larsen column 5, lines 26-48. The sealing ring 3 of Larsen has circumferential lip portions 6 and 7. Lubricant 9 or 9', which can be a wet lubricant or dry lubricant, is provided to facilitate movement of various lip portions 6, 7 with respect to each other as the sealing ring 3 is compressed in the groove 2 when a second pipe 1a is inserted into the first pipe 1. Larsen specifically requires the lubricant to be placed in two places: (1) between the lip portion 6 of the stiffening body (i.e., lubricant 9'), and (2) between the lip portion 6 and the groove 2 (i.e., lubricant 9), as shown in Larsen's Figure 1 of Larsen. *See* Larsen column 6, lines 7-21.

Because of the specificity of the locations on which a dry powder lubricant is to be used in Larsen, Larsen fails to provide any suggestion, motivation, or reason to combine features of

Larsen with Dole so as to render the claimed invention as a whole obvious. Instead, the Office Action relies on Applicant's own specification at page 1, lines 5-6, and page 6, lines 15-20, to allegedly suggest lubricating at least the inner surface of Dole's gasket, with the dry lubricant as allegedly taught by Larsen.

Even if Dole's gasket 32 could be modified in view of Larsen's dry lubricant, and at the location(s) allegedly suggested by Applicant's own specification, propositions that Applicant does not accept, the references would still fail to teach each and every feature of the invention as recited in independent claims 1, 5, 10 and 16. Specifically, Dole and Larsen fail to teach or suggest a powder coating. And absent the benefit of Applicant's originally filed application, there is no suggestion or motivation to provide a powder coating.

Thus, for at least any of these reasons, it is respectfully submitted that the rejections under 35 U.S.C. § 103(a) of independent claims 1, 5, 10 and 16 should be withdrawn, and that these claims are allowable over the applied prior art. Moreover, claims 4, 6, 9 and 19-23 depend, either directly or indirectly, from one of these independent claims and are therefore also allowable for at least the same reasons, as well as for the additionally recited features that further distinguish over the applied prior art.

None of the prior art references to Holt, Sisk, or Dole '907 cures the deficiencies in the proposed combination of Dole in view of Larsen and Applicant's own disclosure. Each of the relied upon references fails to teach or suggest, at the time the invention was made, a powder coating that provides a dry lubricant on at least the inner circumferential surface of the gasket so as to cure the above-noted deficiencies of Dole in view of Larsen.

Holt's shows an elastomeric double-walled tube 1 to connect two pipes 22 together. Holt states that the double walled tube 1 is provided with friction reducing means 4 disposed between the walls. *See* Holt column 8, lines 57-66. Holt's friction reducing means 4 can be of a solid, semi-solid, or liquid lubricant. *See* Holt column 9, lines 26-28, column 12, lines 1-18 and 65-68, and column 13, lines 3-15. However, Holt is completely silent as to a powder coating of the friction reducing means 4. Accordingly, it is respectfully submitted that the rejections under 35 U.S.C. § 103(a) of claims 2, 3, 7, 8, 17, and 18 should be withdrawn, and that these claims are allowable over the applied prior art.

Sisk shows and describes a pipe coupler 30 with clamping arms 32 and 34 for a gasket 150. *See* Sisk column 4, lines 54-64, and column 5, lines 9-21. Sisk, however, fails to show or describe any lubricant anywhere on the gasket 150. Consequently, Sisk fails to teach or suggest a powder coating such that Sisk would cure the deficiencies of Dole in view of Larsen. Accordingly, it is respectfully submitted that the rejections under 35 U.S.C. § 103(a) of claims 11 and 15 should be withdrawn, and that these claims are allowable over the applied prior art.

Dole '907 shows and describes an end fitting 10 with an elastomeric seal 18. *See* Dole '907 column 4, lines 24-31. Dole '907, however, fails to show or describe any type of lubricant anywhere on the seal 18. Consequently, Dole '907 fails to teach or suggest a powder coating such that Dole '907 would cure the deficiencies of Dole in view of Larsen and Sisk. Accordingly, it is respectfully submitted that the rejection under 35 U.S.C. § 103(a) of claim 12 should be withdrawn, and that this claim is allowable over the applied prior art.

As discussed above, neither Holt nor Sisk, whether considered independently or in combination, overcome the deficiencies of Dole in view of Larsen. Accordingly, it is respectfully submitted that the rejections under 35 U.S.C. § 103(a) of claims 13 and 14 should be withdrawn, and that these claims are allowable over the applied prior art.

For the reasons discussed above, appellant respectfully asserts that Dole, Larsen, Holt, Sisk, or Dole '907, whether considered alone or in combination, fails to teach or suggest the claimed invention as a whole, as recited in claims 1-23. Accordingly, claims 1-23 are respectfully submitted to be patentable over the applied prior art.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration of the application and timely allowance of pending claims 1-23 is respectfully requested.

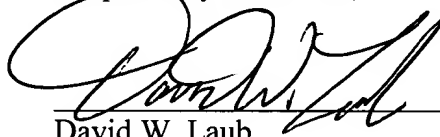
Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact the undersigned to expedite prosecution of the application.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 08-1641. **This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).**

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